

PURDUE UNIVERSITY



Final
Report
567228

CINDAS/USAF CRDA
HANDBOOKS OPERATION

23 July 1997

National Aeronautics and Space Administration
Lewis Research Center
Attention: 1520/Ms Irene Cierchacki, Grants Officer
21000 Brookpark Road
Cleveland, Ohio 44135

Dear Ms Cierchacki:

Final Report, NASA Grant NAG3-1629
Technical Support for the Publication of the
AEROSPACE STRUCTURAL METALS HANDBOOK

In accordance with the subject grant requirements, we are pleased to submit the following final report.

Purdue University submitted an initial grant request on 6 May 1994 for the amount of \$17,485.00. This grant request was approved for the period 24 June 1994 to 23 January 1995; a no-cost time extension was granted to 19 March 1995. Our proposals of 14 November 1994 (for an additional \$42,000.00) and 17 November 1995 (for \$50,000) were accepted with related time extensions to continue the program through 3 March 1997.

The objective of this effort was to provide technical support for the publication of the **Aerospace Structural Metals Handbook (ASMH)**. This Handbook is being produced as one product covered by a Cooperative Research and Development Agreement (CRADA) between the United States Air Force (USAF) and Purdue University. Purdue and the USAF have both made contributions to the undertaking of this effort.

Specifically, this grant covered the technical effort required by section authors and a technical editor to generate and review the material for 10 sections of the ASMH and a nominal percentage of administrative time for the program manager. In addition, the last part of this grant included funding for a feasibility study to produce a computerized version of the ASMH. A prototype CD-ROM containing two chapters of the ASMH was produced and given to several NASA and Air Force personnel for review and comment. All other production and marketing costs for the preparation of the following 10 Handbook sections produced under this grant were borne by Purdue University.

1994

Titanium Alloy Ti 6-2-2-2
Inconel Alloy 718

1995

Steel Alloy AerMet 100
Steel 17-4PH
Titanium Ti 15-3
Steel Custom 455

1996

Aluminum Alloy A201
Nickel Base Rene 95
Aluminum Alloy A357
Stainless Steel 15-5PH

1293 POTTER ENGINEERING CENTER, ROOM 316B • WEST LAFAYETTE, IN 47907-1293

(765) 494-7756 • FAX: (765) 494-2351

U.S. AIR FORCE COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENT HANDBOOKS OPERATION IS OPERATED BY THE
CENTER FOR INFORMATION AND NUMERICAL DATA ANALYSIS AND SYNTHESIS (CINDAS) OF PURDUE UNIVERSITY

Each of the authors provided a draft of a new or revised section covering one alloy to the Technical Editor for review and comment; the Technical Editor then coordinated any required or suggested changes with the authors. The final draft was then submitted to Purdue for final editing and production of the printed sections. Distribution was then made to the subscribers to the Annual Supplement Service. Under the terms of this grant, ten Handbooks and related annual supplement services have been, or are being, furnished to various NASA facilities without charge.

In addition to the publication efforts, Purdue examined the procedures and requirements for the computerization of the ASMH. A demonstration CD-ROM, containing two sections (Aluminum Alloy 7150 and Steel Alloy AerMet 100) of the ASMH, was produced. (A copy has been provided to Mr. John Reagan at NASA - Lewis.) This self-contained CD contains linkages to provide the capability to switch from referenced text to tables and/or graphics. Although this demo CD does not contain all features that might be incorporated into a production item, it does provide an excellent demonstration of what might be done with a computerized ASMH.

Should you have any additional questions, please contact me.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Harold Mindlin". The signature is fluid and cursive, with the first name "Harold" being more prominent than the last name "Mindlin".

Harold Mindlin
Senior Researcher

C: Mr. John Reagan
Materials and Processes